Holt McDougal
Algebra 1, Algebra I

Degree of Evidence regarding the Standards for Mathematical Practice:

Minimal Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. In the sample reviewed, there is often a formulated problem-solving process. There are some connections made among tables, graphs, equations and situations. These connections only seem to happen in separate sections called labs, so implementation is dependent upon the teacher. There are some open-ended questions in the "Think and Discuss," but this is part of the example section, so again implementation depends on the teacher. Occasionally, there are open-ended questions in the practice problems. There is no opportunity for reflection on answers. In the sample reviewed, there are infrequent and limited open-ended problem-solving opportunities for students.
2. **Reason abstractly and quantitatively**. In the sample reviewed, there are some application problems mixed throughout the practice problems and examples, but the questions are still scripted – many leading questions broken into small parts. Some chapters have a "real-world connections" section at the end, which reviews topics in real-world settings (e.g. pp. 294-295). Algorithms are given, followed by examples of how to apply them. Most of the problems have students apply algorithms. There are frequent opportunities for students to represent real-world situations in symbols. Units are included in the application problems, but there is little to no discussion of reasonableness. Most problems are solved by applying an algorithm. Overall, there are very few opportunities for students to determine reasonableness.
3. **Construct viable arguments and critique the reasoning of others**. In the sample reviewed, there are few opportunities for students to explain their thinking. Rarely are students applying mathematical ideas; usually they apply an algorithm. There are limited to no opportunities to make and test conjectures. There is some error analysis in the practice problems. There are few to no communication opportunities among students referenced in the student text or teacher resource. Overall, there are very limited opportunities for students to justify or defend their thinking.
4. **Model with mathematics**. In the chapters reviewed, there are occasional questions where students make sense of their answer in context of the situation. Students have limited opportunities to create mathematical models for real-world application problems. Rarely, models like algebra tiles are used to explain mathematical concepts, but they are in a separate section, so implementation is up to the teacher. Determining reasonableness and revision of methods is not mentioned. There is little opportunity for students to revise their results.
5. **Use appropriate tools strategically.** In the chapters reviewed, there are graphing calculator activities that explain how to use the graphing calculator, but these are separate sections, so implementation is up to the teacher. There are some examples and questions requiring graphing calculators in the sections. In the teacher-to-teacher note on p. 323, CBRs are referenced. This is the only technology other than graphing calculators referenced in the chapters reviewed. Tools and technology are occasionally used to investigate topics, but these activities are in separate sections, so implementation is dependent upon the teacher. Graphing calculators are referenced and used in the chapters reviewed. There is no discussion of advantages or shortcomings of technology.
6. **Attend to precision.** In the chapters reviewed, examples use proper notation and are precise.

Examples of precise communication, such as a sample student conversation in the teacher's edition, are not present. Students are given limited opportunities to communicate. Overall, there is attention to precision in the examples, but no real discussion for students to tackle.

7. **Look for and make use of structure**. In the chapters reviewed, very rarely are patterns used to make generalizations. If they are used, the activity is in a separate section, so implementation is dependent upon the teacher. Often rules are given at the beginning of the section, and examples of applying the algorithm follow. Occasionally patterns are explored using technology in order to make a generalization, but again these activities are in a separate section (e.g. p. 632). There is minimal connection to prior learning. There is very little to no use of specific examples moving to generalization.
8. **Look for and express regularity in repeated reasoning.** In the chapters reviewed, patterns are rarely used to make generalizations. Rarely, if ever, are students asked to discover shortcuts from repetitiveness. There are very few, if any, opportunities for students to generalize a pattern to determine a rule.